

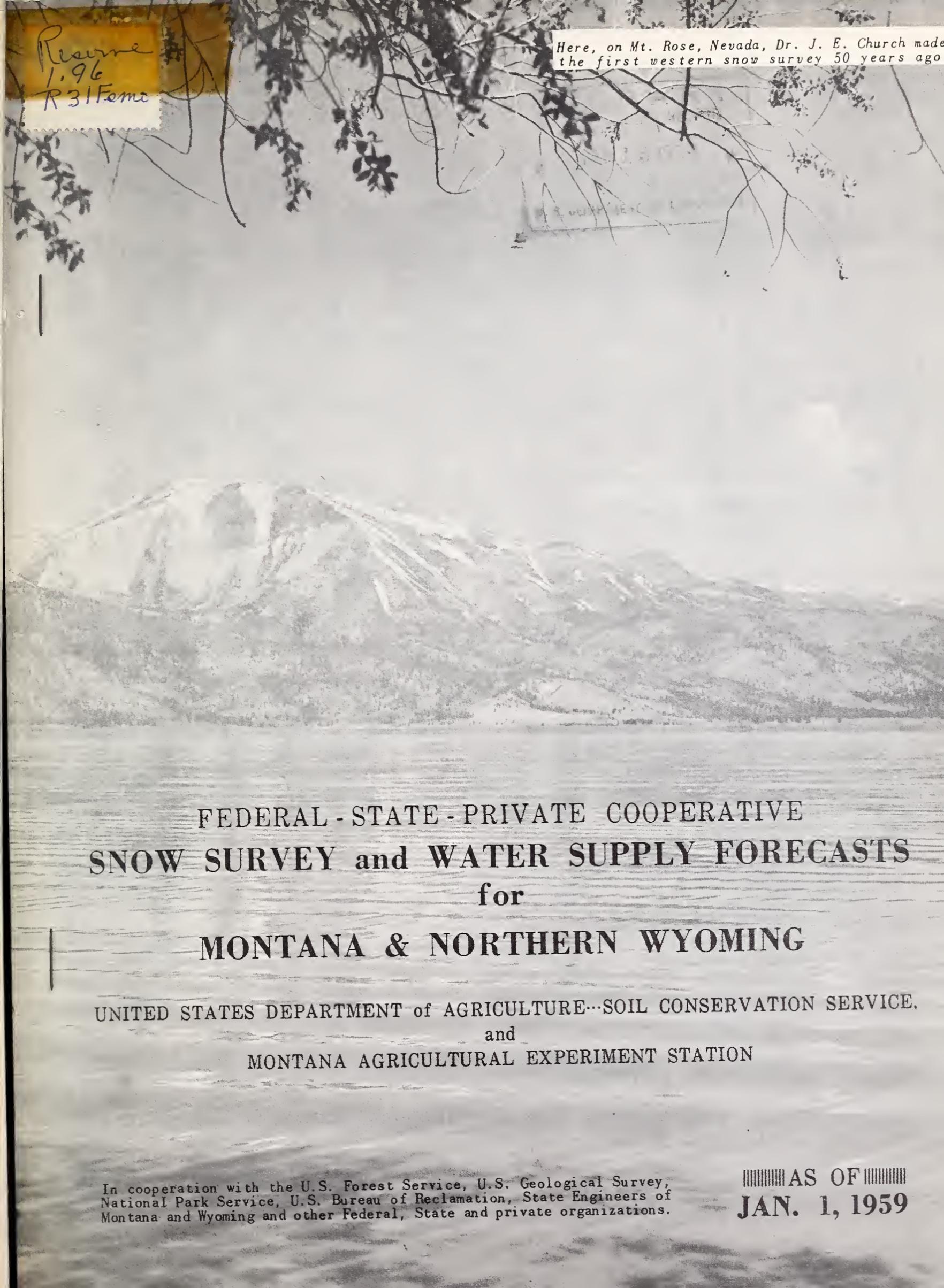
## **Historic, Archive Document**

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Resume  
1.96  
R31Fema

Here, on Mt. Rose, Nevada, Dr. J. E. Church made  
the first western snow survey 50 years ago



FEDERAL - STATE - PRIVATE COOPERATIVE  
SNOW SURVEY and WATER SUPPLY FORECASTS  
for  
MONTANA & NORTHERN WYOMING

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,  
and  
MONTANA AGRICULTURAL EXPERIMENT STATION

In cooperation with the U.S. Forest Service, U.S. Geological Survey,  
National Park Service, U.S. Bureau of Reclamation, State Engineers of  
Montana and Wyoming and other Federal, State and private organizations.

AS OF  
JAN. 1, 1959

# UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1300 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

## PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	COOPERATING WITH	LOCATION
RIVER BASINS			
COLORADO, RIO GRANDE ..... AND ARKANSAS	MONTHLY (FEB.-MAY)	COLO. EXP. STATION ..... COLO. STATE ENGINEER NEW MEXICO STATE ENGINEER	FT. COLLINS, COLO.
COLUMBIA <i>Includes Alaska</i> .....	MONTHLY (JAN.-MAY)	IDAHO STATE ENGINEER	BOISE, IDAHO
UPPER MISSOURI .....	MONTHLY (FEB.-MAY)	MONT.AGR.EXP.STATION	BOZEMAN, MONTANA
WEST-WIDE .....	(OCT. 1, APR. 1 AND MAY 1)	COOPERATORS	PORTLAND, OREGON

## STATES

ARIZONA .....	SEMI-MONTHLY (JAN. 15-APR. 1)	SALT R. VALLEY WATER ..... USERS ASSOCIATION	PHOENIX, ARIZONA
NEVADA .....	MONTHLY (FEB.-APR.)	NEVADA STATE ENGINEER	RENO, NEVADA
OREGON .....	MONTHLY (JAN.-MAY)	ORE.AGR.EXP.STATION	PORTLAND, OREGON
UTAH .....	MONTHLY (JAN.-MAY)	UTAH STATE ENGINEER UTAH AGR.EXP.STATION	SALT LAKE CITY, UTAH
WASHINGTON .....	MONTHLY (FEB.-MAY)	WASH. STATE DEPT. OF CONSERVATION	SPOKANE, WASHINGTON
WYOMING .....	MONTHLY (FEB.-JUNE)	WYOMING STATE ENGINEER	CASPER, WYOMING

Copies of the various reports may be secured from: Head, Water Supply Forecasting Section  
Soil Conservation Service  
209 S.W. 5th Avenue, Portland 4, Oregon

## PUBLISHED BY OTHER AGENCIES

### OTHER SNOW SURVEY REPORTS

BRITISH COLUMBIA .....	MONTHLY (FEB.-JUNE)	COMPTROLLER, WATER RIGHTS BR., DEPT. OF LANDS AND FORESTS, PARLIAMENT BLDGS. VICTORIA, B.C.
CALIFORNIA .....	MONTHLY (FEB.-MAY)	CALIFORNIA DEPARTMENT OF WATER RESOURCES, SACRAMENTO, CALIFORNIA

FEDERAL-STATE-PRIVATE COOPERATIVE  
SNOW SURVEYS and WATER SUPPLY FORECASTS  
for  
MONTANA AND NORTHERN WYOMING  
(Upper Missouri and Upper Columbia River Basins)

Report Prepared by:

A. R. Codd  
Hydraulic Engineer  
Soil Conservation Service

Soil Conservation Service  
U. S. Department of Agriculture  
and  
Montana Agricultural Experiment Station  
Bozeman, Montana

Report Issued by:

H. D. Hurd  
State Conservationist  
of Montana

O. W. Monson  
Irrigation Engineer  
Montana Agricultural  
Experiment Station

R. E. Huffman  
Director  
Montana Agricultural  
Experiment Station



## WATER SUPPLY OUTLOOK

FOR MONTANA  
January 1, 1959

### MISSOURI RIVER BASIN

The 1959 snow-pack over the Missouri River Basin is approximately 71 percent average for January first.

Comparing the few key snow survey courses measured this early in the season with January 1958, snow on the Jefferson Basin is 82 percent of last year and 73 percent of an average January.

The 1959 snow-pack over the Madison River Basin is 60 percent of last year and 57 percent of an average January.

### COLUMBIA RIVER BASIN

The 1959 snow-pack on the Columbia River Basin in Montana is approximately 103 percent of January 1958 and 100 percent of the average for January.

The 1959 snow-pack on the Flathead River Basin is 113 percent of last year and 117 percent of an average January.

On the Clark Fork Basin the 1959 snow-pack is 100 percent of last year and 96 percent of the January average.

The Gibbons Pass snow course at the head of the Bitterroot River Basin shows 37 inches of snow with 9.5 inches of water content. The figures indicate that the snow-pack is 87 percent of last January and 85 percent of the January average.





# INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

MISSOURI RIVER DRAINAGE										MISSOURI RIVER DRAINAGE (cont.)										MISSOURI RIVER DRAINAGE (cont.)										MISSOURI RIVER DRAINAGE (cont.)									
Drainage Basin and Course Name	Montana Number	Elev.	Location Sec.	Range Long.	Record Began	Measuring Dates	Measured By	Drainage Basin and Course Name	Montana Number	Elev.	Location Sec.	Range Long.	Record Began	Measuring Dates	Measured By	Drainage Basin and Course Name	Montana Number	Elev.	Location Sec.	Range Long.	Record Began	Measuring Dates	Measured By	Drainage Basin and Course Name	Montana Number	Elev.	Location Sec.	Range Long.	Record Began	Measuring Dates	Measured By								
JEFFERSON RIVER										MISSOURI RIVER DRAINAGE										MISSOURI RIVER DRAINAGE (cont.)										(TONGUE RIVER cont.)									
(ROCK-BEAVERTHEAD)										(UPPER YELLOWSTONE)																													
Lakeview Bldg	11E3	7400	27	14S	2W	1948	3,4,5	10	Camp Senia Canyon	9DL	7890	2	8S	18E	1937	4	1	Horse Trail Div.	7E19	9200	29	55N	90W	1956	2,3,4,5	1													
Lakeview Canyon	11E4	6930	26	14S	2W	1948	3,4,5	10		10E3	7750	14S-14N	110°-30'	1938	1,2,3,4,5	6		Lake Geneva	7E16	9000	7	52N	86W	1956	2,3,4,5	1													
Linekila	12E2	6950	5	15S	9W	1948	3,4	1	Cooks City	10D7	7400	25	9S	14E	1937	1,2,3,4,5	6	North Tongue	7E15	8800	17	55N	89W	1956	2,3,4,5	1													
White Pine Ridge	12E1	8850	18	14S	9W	1948	3,4	1	Crovice Mt.	10D5	8400	22	9S	9E	1935	3,4	2	Sibley Lake	7E11	8000	10	55N	88W	1956	2,3,4,5	1													
									Independence	10D6	8000	22	7S	12E	1940	3,4	1	Stearns Creek	7E12	9000	19	55N	87W	1956	2,3,4,5	1													
									Lake Canyon	10E4	7850	14S-14N	110°-24'	1936	1,2,3,4,5	6		Steamboat Point	7E10	7500	32	56N	87W	1956	2,3,4,5	1													
									Lupine Creek	10E1	7300	14S-14N	110°-37'	1938	1,2,3,4,5	6		Wood Rock G.S.	7E13	8500	3	54N	88W	1956	2,3,4,5	1													
									Lodgepole	9E1	8200	32	56N	106W	1940	2,3,4,5	1,4																						
(HORSE PRAIRIE)										(SHIELDS RIVER)										(POWDER RIVER) Wyoming																			
Bloody Dick	13010	7600	12	8S	16W	1948	3,4	1										Crazy Woman	6E2	8200	6	47N	84W	1956	2,3,4,5	1													
Gold Stone	1309	8100	11	8S	16W	1948	3,4	1										Muddy Creek G.S.	6E1	7800	2	48N	84W	1956	2,3,4,5	1													
Lemhi Pass	13E1	7480	9	10S	15W	1948	3,4	1										Munkers Pass	7E8	9700	11	48N	85W	1950	2,3,4,5	1													
Terrell Creek	13012	6650	14	9S	15W	1948	3,4	1										North Powder #2	7E36	8300	20	47N	85W	1956	2,3,4,5	1													
Trail Creek	13E2	7090	15	10S	15W	1948	3,4	1										Onion Gulch	7E27	8100	31	48N	85W	1956	2,3,4,5	1													
Selway Junction	13011	6800	27	8S	15W	1948	3,4	1										Soldier Park	7E5	8700	36	51N	85W	1950	2,3,4,5	1													
																		Sour Dough	7E6	8500	17	49N	84W	1936	2,3,4,5	1													
(BIO HOLE)										(WIND RIVER) Wyoming										COLUMBIA RIVER BASIN																			
Big Hole Pass	13D3	7240	28	3S	18W	1948	3,4	1																															
Big Hole Pass-Be.	13D4	6900	24	3S	18W	1948	3,4	1	Big Warm	9F12	8800	36	42N	109W	1955	2,3,4,5	1																						
East Boundary	13D5	6700	22	3S	17W	1948	3,4	1	Brooke Lake #3	10F8	9200	23	44N	110W	1939	2,3,4,5	1																						
Gibbons Pass	13D2	7100	4	2S	19W	1934	1,2,3,4,5	1,3	Burroughs Creek	9F4	8800	15	43N	107W	1948	2,3,4,5	1																						
Jahnke Creek	1308	7340	25	7S	16W	1948	3,4	1	Dinwoode	9F10	10000	21	39N	105W	1948	2,3,4,5	1																						
Minor Forks	13D6	7300	24	6S	17W	1948	3,4	1	Dry Creek	9F9	9500	34	4N	6W	1948	2,3,4,5	1																						
Miner Lake	13D7	6720	10	6S	16W	1945	3,4,5	1	DuNoir	9F6	8750	27	42N	108W	1940	2,3,4,5	1																						
									East Fork	9F13	9200	23	44N	104W	1956	2,3,4,5	1																						
									Geyser Creek	9F7	8500	12	41N	108W	1948	2,3,4,5	1																						
									Little Warm	9F8	9500	24	41N	108W	1948	2,3,4,5	1																						
									Sheridan R.S. #1	9F5	7500	3	42N	109W	1939	2,3,4,5	1																						
									Sheridan R.S. #2	9F14	7500	3	42N	109W	1955	2,3,4,5	1																						
									T-Cross Ranch	9F3	8000	1	43N	107W	1940	2,3,4,5	1																						
									Togwotee Pass	10F9	9600	29	44N	110W	1936	2,3,4,5	1,1																						
(WISE RIVER)										(POPO AGUE RIVER) Wyoming																													
Anderson Mdw.	13014	7000	18	3S	12W	1948	3,4	1																															
Elk Horn	13D15	8450	15	4S	12W	1935	3,4,5	3	Blue Ridge	802	9500	23	31N	101W	1939	2,3,4,5	1																						
Wilo River	13013	6300	15	2S	12W	1948	3,4	1	Bruce's Camp	805	6500	24	32N	101W	1955	2,3,4	1																						
									Hobbs' Park	903	10000	22	2S	3W	1948	2,3,4,5	1																						
									Mosquito Park R.S.	904	9500	23	2S	3W	1940	2,3,4,5	1																						
									Sawmill Glade	801	8500	3	31N	101W	1939	2,3,4,5	1																						
									South Pass	803	9000	13	30N	101W	1939	2,3,4,5	1																						
									St. Lawrence	9F11	9000	26	1N	4W	1940	2,3,4,5	1																						
									Trout Creek	902	8400	5	2S	2W	1948	2,3,4,5	1																						
(RUBY RIVER)										(OWL CREEK) Wyoming																													
Fleashlight	12D3	6950	22	8S	7W	1945	3,4,5	1																															
									Beaver Mill	9F2	8900	6	43N	102W	1948	2,3,4,5	1																						
									Owl Creek	8F1	8700	36	43N	101W	1948	2,3,4,5	1																						
(MADISON RIVER)										(GREYBULL RIVER) Wyoming																													
Hobgen	11E5	6550	22	11S	3E	1934	1,2,3,4,5	3																															
West Yellowstone	11E7	6700	34	13S	5E	1934	1,2,3,4,5	3	Timber Creek #1	9E2	8800	25-	47N	103W	1948	2,3,4,5	1																						
Norris Basin	10E2	7500	14S-14N	110°-42'	1936	3,4	6		Timber Creek #2	9E3	8800	25	47N	103W	1955	2,3,4,5	1																						
									Wood River #1	9F1	8000	28	46N	103W	1939	2,3,4,5	1																						
									Wood River #2	9F15	8000	28	46N	103W	1956	2,3,4,5	1																						
(GALLATIN RIVER)										(SHOSHONE RIVER) Wyoming																													
Devil's Slide	10D4	8100	14	5S	6E	1935	2,3,4,5	2,1																															
Hood Meadow	10D3	6600	22	4S	6E	1935	2,3,4,5	2,1	East Entrance	10E6	7000	17	52N	109W	1948	1,2,3,4,5	6																						
New World	10U1	6700	24	3S	6E	1939	1,2,3,4,5	7	Sylvan Pass	10E5	7100	12	52N	110W	1936	1,2,3,4,5	6																						
21-Mile	11E6	7150	1	11S	5E	1934	1,2,3,4,5	3																															
MISSOURI RIVER MAIN STEM										(NOWOOD CREEK) Wyoming																													
Onesman Reservoir	12C5	6200	2	8N	5W	1936	1,2,3,4,5	3																															
Crystal Lake	901	6100	19	12N	18E	1941	3,4	1,2	Cold Springs Camp	7E25	8700	1	50N	88W	1956	2,3,4,5	1																						
Grasshopper	1002	7000	19	9N	8E	1938	3,4	2	Medicine Lodge Lake	7E24	9500	7	51N	87W	1956	2,3,4,5	1																						
Kings Hill	1001	7950	35	13N	7E	1934	3,4,5	3	Munkers Pass	7E8	9700	11	48N	85W	1950	2,3,4,5	1																						
Pionio Grounds	12C6	6500	10	5N	6W	1941	2,3,4	4	North Powder	7E36	8300	20	47N	85W	1956	2,3,4,5	1																						
Pipestone Pass	1201	7200	11	1N	7W	1938	2,3,4,5	1	Onion Gulch	7E27	8100	31	48N	85W	1956	2,3,4,5	1																						
Stemple Pass	12C1	6900	16	13N	7W	1934	3,4,5	3	Tensleep Lake	7E26	9075	33	50N	86W	1956	2,3,4,5	1																						
Ten Mile Creek L	12C2	6250	13	8N	6W	1935	1,2,3,4,5	3	Tensleep R.S.	7E7	8300	30	49N	86W	1935	2,3,4,5	1																						
Ten Mile Creek M	12C3	6800	13	8N	6W	1934	1,2,3,4,5	3	Tyrell R.S.	7E35	8300	30	49N	86W	1956	2,3,4,5	1					</																	

a. Numerals 1,2,3,4 and 5 refer to January 1, February 1, March 1, April 1 and May 1.

b. Numerals refer to Agency that secures the snow survey as follows:

1. Soil Conservation Service	7. Montana Experiment Station
2. U. S. Forest Service	8. City of Bozeman
3. U. S. Geological Survey	9. Dominion Water & Power Bureau
4. Montana Power Company	10. U. S. Fish and Wildlife Service
5. U. S. Indian Service	11. U. S. Bureau of Reclamation
6. National Park Service	12. Montana State Forestry School

M - Soil Moisture  
A - Aerial Marker

5,R-11,484 59M-46-3(3)

MONTANA SNOW SURVEYS ABOUT JANUARY 1, 1959

			SNOW COVER MEASUREMENTS						
			1959			Past Record			Total Years of Record
			Date of Survey	Snow Depth (In.)	Water Content (In.)	Water Content		(In.) 15-Year Average 1938-52	
MISSOURI DRAINAGE BASIN AND SNOW COURSE	No.	Elev.				1958	1957		
<u>JEFFERSON RIVER</u>									
(Rock-Beaverhead)									
#Camp Creek	12E3	6800	12/29	10	1.4	3.5	3.5	4.0*	21
#Kilgore	11E12	6200				4.1	3.8	4.6	21
(Big Hole)									
Gibbons Pass	13D2	7100	12/30	37	9.5	10.9	11.2	11.2**	9
Storm Lake #2	13C7	7780	12/31	23	5.6	5.6	6.0	7.4**	3
<u>MADISON RIVER</u>									
Hebgen	11E5	6550	1/3	20	3.4	5.0	6.6	5.6	24
Norris Basin	10E2	7500	1/2	19	3.7	3.7	4.9	4.7**	5
21-Mile	11E6	7150	1/4	25	5.1	6.1	9.3	7.7*	20
W. Yellowstone	11E7	6700	1/3	14	2.4	3.4	5.6	5.2*	21
#Big Springs	11E9	6500	1/1	22	4.3	9.2	9.5	7.4	23
#Island Park	11E10	3600	1/1	16	2.1	7.1	7.2	5.9*	23
#Valley View	11E8	6500	1/1	19	2.7	5.2	6.7	5.2*	22
<u>GALLATIN RIVER</u>									
21-Mile	11E6	7150	1/4	25	5.1	6.1	9.3	7.7*	20
<u>MISSOURI RIVER MAIN STEM</u>									
Chessman Res.	12C5	6200	1/2	12	2.0	1.4	0.1	2.1	23
Pipestone Pass	12D1	7200	1/2	9	1.4	2.2	-	3.3**	3
Tenmile, Lower	12C2	6250	1/4	18	3.5	2.7	2.2	2.8	23
Tenmile, Middle	12C3	6800	1/3	25	5.8	4.7	3.9	5.0	24
Tenmile, Upper	12C4	8000	1/3	33	7.5	5.6	5.2	5.6	24
(Marias River)									
Marias Pass	13A5	5250	12/31	31	9.2	8.0	8.4	7.8	24
<u>UPPER YELLOWSTONE</u>									
Canyon	10E3	7750	1/1	30	6.0	5.5	6.5	6.7**	12
Cooke City	10D7	7400	12/31	19	3.6	3.0	3.5	4.0**	12
Lake Camp	10E4	7850	1/2	20	3.4	3.5	3.9	4.6**	10
Lupine	10E1	7300	1/3	18	3.1	3.5	-	4.4**	6
#Aster Creek	10E8	7700	1/2	38	11.0	14.8	12.3	18.4**	7
#Thumb Divide	10E7	7900	1/2	32	8.3	-	8.3	11.5**	7

\* Less than 15 years in 1938-52 period. Average for 15 years nearest the base period.

\*\* Average for period of record.

# Adjacent Basin.



MONTANA SNOW SURVEYS ABOUT JANUARY 1, 1959

COLUMBIA DRAINAGE BASIN AND SNOW COURSE			SNOW COVER MEASUREMENTS						Total Years of Record
			Date of Survey	1959		Past Record			
				Snow Depth (In.)	Water Content (In.)	Water Content (In.)		15-Year Average 1938-52	
						1958	1957		
No.	Elev.								
<u>FLATHEAD RIVER</u>									
Coyote Hill	13B10	4200	1/2	18	4.9	4.8	4.8	5.0**	7
Desert Mountain	13A2	5600	12/31	33	7.6	6.1	6.4	6.1**	9
Marias Pass	13A5	5250	12/31	31	9.2	8.0	8.4	7.8	24
Spotted Bear Mt.	13B2	7000	1/7	38	9.9	5.4	5.9	6.5**	3
Trout Lake	13A12	3600	1/5	33	6.8	5.7	4.9	7.5**	4
Twin Creeks	13B11	3580	1/6	32	6.2	4.1	3.5	4.1**	3
<u>CLARK FORK</u>									
Chessman Res.	12C5	6200	1/2	12	2.0	1.4	0.1	2.0	23
Coyote Hill	13B10	4200	1/2	18	4.9	4.8	4.8	5.0**	7
Fish Lake Airstrip	21B4	5000	1/4	55	15.7	15.9	17.6	16.9**	5
Lubrecht For. #6	13C8	5400	1/5	5	1.1	1.6	1.1	1.6**	8
Pipestone Pass	12D1	7200	1/2	9	1.4	2.2	-	3.3**	3
Storm Lake #2	13C7	7780	12/31	23	5.6	5.6	6.0	7.4**	3
Tenmile, Lower	12C2	6250	1/4	18	3.5	2.7	2.2	2.8	23
Tenmile, Middle	12C3	6800	1/3	25	5.8	4.7	3.9	5.0	24
Tenmile, Upper	12C4	8000	1/3	33	7.5	5.6	5.2	5.6	24
TV Mountain	14B1	6800	12/31	34	7.8	7.5	8.2	7.8**	2
#Lookout	15B2	5250	12/30	61	16.2	18.9	15.6	18.1**	9

\* Less than 15 yrs. in 1938-52 period. Average for 15 yrs. nearest the baseperiod.

\*\* Average for period of record.

# Adjacent Basin.



STATUS OF RESERVOIR STORAGE  
January, 1959

BASIN & STREAM	RESERVOIR	USABLE CAPACITY 1000 A.F.	USABLE STORAGE - 1000 ACRE FEET				YRS.
			1959	1958	1957	1938-52 AVG.	
<u>MISSOURI RIVER BASIN - MONTANA</u>							
Beaverhead	Lima	84.0	-	26.4	7.1	33.5*	18
Madison River	Hebgen Lake	345.0	168.7	157.4	156.5	241.6	23
Madison River	Ennis Lake	41.0	39.4	38.7	38.0	34.1	23
Hyalite Creek	Middle Creek	8.0	3.9	3.5	2.8	3.3**	7
Missouri River	Canyon Ferry	2043.0	1736.0	1651.0	1589.0	1412.0**	5
Missouri River	Hauser Lake & Lk. Helena	62.5	51.5	63.1	60.8	44.2*	19
Missouri River	Lake Helena	10.4	68.6	10.7	9.8	7.1**	13
Missouri River	Holter Lake	81.9	69.9	68.5	73.5	58.4	21
N.Fk. Sun River	Gibson	105.0	62.9	28.0	38.6	55.1	23
N.Fk. Sun River	Willow Creek	32.3	26.7	19.1	22.9	12.5	23
N.Fk. Sun River	Pishkun	32.0	19.9	12.7	17.0	15.6	23
Marias River	Tiber	1316.0	-	622.1	627.1	-	3
Birch Creek	Swift	30.0	-	-	21.2	18.2	23
Dupuyer & Birch	Lake Francis	112.0	-	-	90.0	72.5	23
Judith River	Ackley Lake	5.8	-	4.6	3.4	4.2*	20
Missouri River	Ft. Peck <u>3/</u>	19410.0	8970.0	7670.0	6014.0	11120.0*	18
Milk River	Fresno	127.2	29.9	57.7	78.0	55.8*	18
Milk River	Nelson	66.8	44.0	51.4	53.0	29.6	23
W. Rosebud Cr.	Mystic Lake	20.8	14.0	9.8	7.9	11.0	23
Tongue River	Tongue River	73.9	15.6	9.0	8.6	8.2*	18
Swiftcurrent Cr.	Sherburne Lk.	66.1	28.6	-	16.3	17.3	22
<u>MISSOURI RIVER BASIN - WYOMING</u>							
Shoshone River	Buffalo Bill	440.0	24.8	189.4	143.9	270.8	24
Wind River	Boysen	408.6AC	155.8	322.4	240.6	2850.0**	7
Wind River	Pilot Butte	31.6	6.1	14.4	9.2	12.9	23
Bull Creek	Bull Lake	152.0	65.7	75.1	76.0	63.9*	19
Belle Fourche	Key Hole	190.0AC	0.9	1.2	12.5	9.8**	6

\* Less than 15 years in 1938-52 period. Average for 15 years nearest the base period.

\*\* Average for period of record.

3/ Gross contents: usable capacity less 617.0 A.F; minimum power pool 4,500.0 A.F.

AC Active storage - USBR Billings.



STATUS OF RESERVOIR STORAGE  
January, 1959

BASIN & STREAM	RESERVOIR	USABLE CAPACITY 1000 A.F.	USABLE STORAGE - 1000 ACRE FEET				YRS.
			1959	1958	1957	1938-52 AVG.	
<u>MISSOURI RIVER BASIN - NORTH DAKOTA</u>							
Heart River	Heart Butte	54.8AC	44.3	56.3	44.0	52.3**	8
Heart River	Dickinson	4.3AC	3.7	4.3	3.2	3.8**	7
Missouri River	Garrison Lk.	13805.0AC	2860.2	4500.0	602.0	-	4
James River	Jamestown	20000.0AC	12.5	8.8	4.8	-	2
<u>MISSOURI RIVER BASIN - SOUTH DAKOTA</u>							
Belle Fourche	Belle Fourche	185.0AC	24.5	59.6	28.4	-	3
Cheyenne River	Angostura	160.0AC	48.5	56.7	25.4	-	3
Cheyenne River	Deerfield	15.1AC	8.4	11.0	8.6	11.2**	5
Grand River	Shadehill	84.0AC	72.1	79.4	134.1	134.0**	5
Missouri River	Ft. Randall	4900.0AC	2091.0	1202.0	667.0	-	4
Missouri River	Gavins Point	385.0AC	287.0	280.4	440.4	-	2
Missouri River	Oahe		240.0	-	-	-	-
Cheyenne River	Pactola	14.8AC	18.2	13.4	1.4	-	2
<u>COLUMBIA RIVER BASIN - MONTANA</u>							
Flint Creek	Georgetown Lk.	31.0	29.2	21.5	21.1	23.5*	19
S.Fk. Flathead	Hungry Horse	3500.0	3255.0	2061.0	1983.0	2420.0**	5
Flathead River	Flathead Lake	1791.0	1478.0	1013.0	967.0	895.0	15
Flathead River 6/	Camas Res.	42.8	23.2	25.4	29.2	19.6*	18
Flathead River 7/	Mission Valley	98.6	25.7	18.1	27.9	32.4*	18

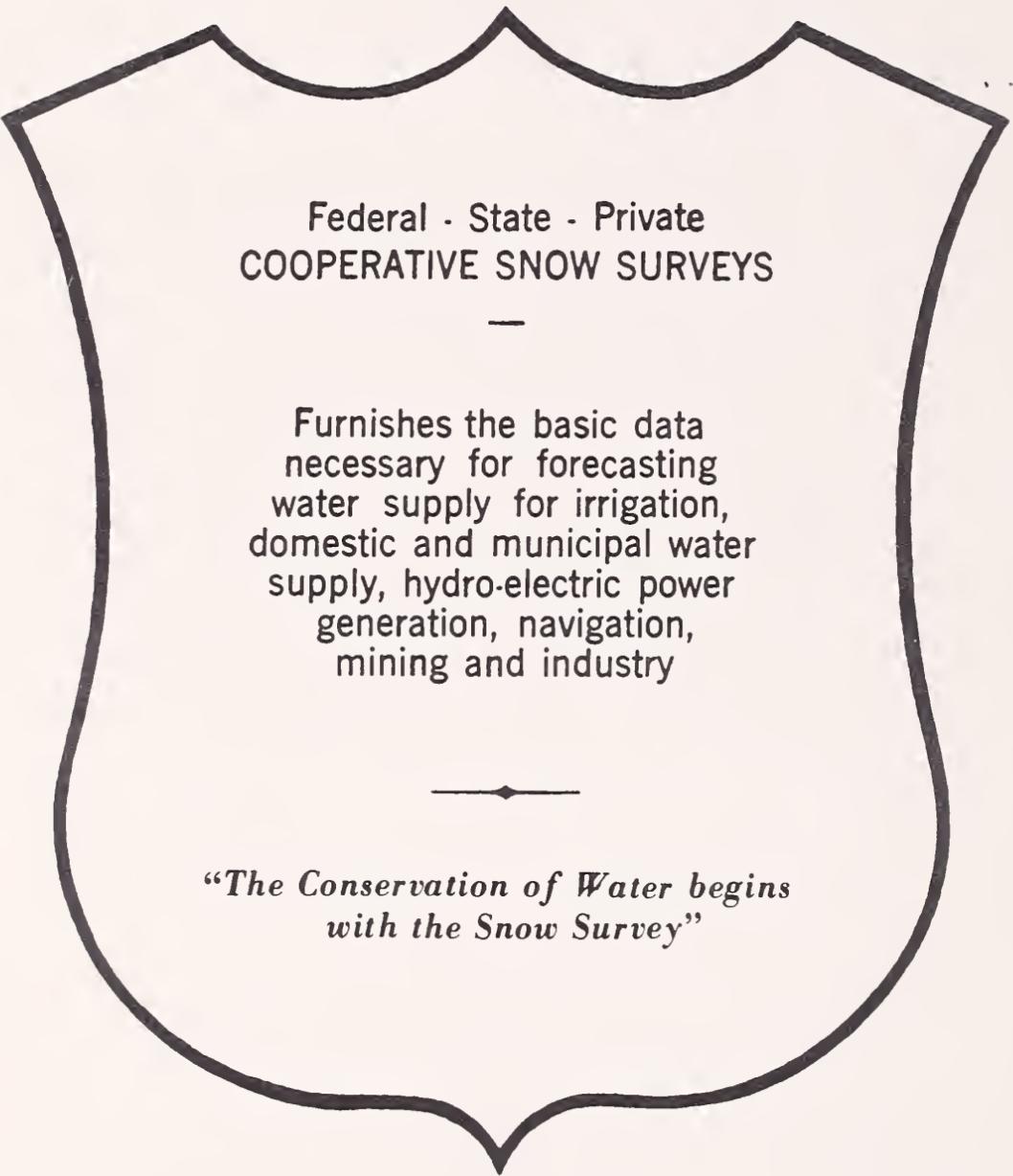
\* Less than 15 years in 1938-52 period. Average for 15 years nearest the base period.

\*\* Average for period of record.

6/ Camas Reservoirs are shown as a sum of (4) small reservoirs on the west side of Flathead Lake located on Dry Creek and Little Bitterroot River.

7/ Mission Valley Reservoirs are shown as a sum of (8) small reservoirs located south and east of Flathead Lake. Both Camas and Mission Valley reservoirs are operated by the Indian Irrigation Service.

AC Active storage - USBR Billings.



Federal - State - Private  
COOPERATIVE SNOW SURVEYS

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Furnishes the basic data  
necessary for forecasting  
water supply for irrigation,  
domestic and municipal water  
supply, hydro-electric power  
generation, navigation,  
mining and industry

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*"The Conservation of Water begins  
with the Snow Survey"*